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lication to be new, but if they have not been previously published in some other journal, they must be relegated to the already regrettably extensive list of *nomina nuda*. This unfortunate condition would not have obtained had Dinsmore appended a few terms of characterization by which the new forms could be distinguished from the species to which they are related.

The general summary is, then, that Dinsmore's *Die Pflanzen Palästinas* is a *seriatim* list of the plants of Palestine quoted from Post's *Flora of Syria, Palestine and Egypt* limited to those known to Mr. Dinsmore to occur in Palestine; accompanied by the already published arabic equivalents on the authority of Boissier, Bauer, Hadded, etc., with the addition of other arabic equivalents on the authority of Dalman; prepared without reference to the entire reclassification of plants which has been so actively carried out during the last twenty-five years, a reclassification almost universally adopted in botanic centers and in educational institutions.

E. L. MORRIS

CURRENT LITERATURE

In 1904 K. M. Wiegand and F. W. Foxworthy issued a key to the genera of woody plants in winter. This valuable little pamphlet of 33 pages has run through several editions and was perhaps the best known treatment of the subject until the present time. From the Storrs Experiment Station we have just received a much more elaborate work* covering a similar field.

After a preface acknowledging the chief sources of information and a short bibliography, the authors take up in the introduction, first, the question of "Names." Throughout they have given the commoner vernacular names of each species as well as the "... one scientific name at present sanctioned by botanical authorities." Naturally these are the names maintained in the new *Gray Manual*, and the authors are to be congratulated upon

* Blakeslee, A. F., and Jarvis, C. D. *New England Trees in Winter*. Bull. Storrs Agr. Exp. Sta. 69: 307-576. [Je] 1911. Storrs, Conn. [Received in December, 1911.]

the adoption of this admirable system, which enforces a minimum of botanical orientation upon the user. However unscientific it may be to place the white pine under *Pinus* (instead of *Strobus*) and the choke cherry under *Prunus* (instead of *Padus*), it is nevertheless true that for the vast majority of the students who will use the work in hand, generic and specific segregates do not aid, but usually obstruct, the path of those who look in the old familiar genera for their commoner tree friends.

The introduction also includes such items as habit, twigs, leaf-scars, buds, fruit, etc. Each of these, and several other aids in the determination of trees in their winter condition, are discussed in detail, always from the viewpoint of the general reader and lumberman. A general key to the genera and individual keys to each genus complete the introductory matter. It may be found that the keys will require more familiarity with such things than the average user of the work will have, but they are excellent and have been drawn with admirable fidelity.

The body of the work contains a detailed description of habit, bark, twigs, leaf-scars, buds, fruits and wood, together with a discussion of the distribution and a comparison with other trees with which the one in hand might be confused.

Nearly all the native trees are treated thus, and a number of introduced species that are practically wild, or so widely cultivated that they attract as much attention as native species. For each species there is a splendid composite photograph showing general habit, character of bark and of the branches and twigs. Frequently, also, the fruits and nuts are shown. There is a comprehensive index and a glossary of botanical terms, which in the text have been avoided wherever consistent with accuracy.

After the large crop of the "How to Know" books, and numberless compilations, great and small, the jaded tree-lover will turn with avidity to this excellent study of the trees in winter. For reasonableness of nomenclature and practicality of taxonomic treatment, for a certain thoroughness and freshness of handling, the work is immeasurably in advance of any recent publication upon the subject. Some discussion of the altitudinal preferences of the different species would have been welcome, but such a

small lack in a work so generally excellent is not to be taken seriously.*—N. T.

Dr. W. J. Gies, consulting chemist of the New York Botanical Garden and professor of biological chemistry in Columbia University, has been very active in the establishment of the *Biochemical Bulletin*, the first number of which appeared recently. This publication, which is to appear quarterly, each volume containing about five hundred pages, is the official organ of the Columbia University Biochemical Association. In addition to the publication of biochemical research, this organ aims to extend general biochemical knowledge and furnish a means of keeping the workers in the home laboratories in closer touch with those who have gone out to other fields of labor. The first number contains 160 pages and is devoted to scientific papers and notes and news of a biochemical nature. One of the papers (pp. 7-41, with three plates) is by Professor F. E. Lloyd, and is entitled, "The tannin-colloid complexes in the fruit of the persimmon, *Diospyros*." We understand that the *Biochemical Bulletin* will aim to give special encouragement to the development of chemical studies in botany and that chemical papers on botanical subjects will be welcomed to its pages.—From the *Journal of the New York Botanical Garden*.

H. D. Tiemann in *American Forestry* for April calls attention to the fact that wood workers know too little of the structure of wood. To the engineer, carpenter, and manufacturer the microscopic structure of this material ought to be most illuminating. It would answer such questions as the following: "Why is white oak more lasting and better wearing than red oak, and why is the former suitable for light cooperage while the latter is not? Why are firs so difficult to treat with preservatives and pines so easy? Why is eucalyptus so difficult to dry?"—J. B.

THE FLORA OF THE RARITAN FORMATION. (Edward W. Berry. Geological Survey of New Jersey, Bulletin No. 3. 8vo, pp. 1-233,

* The work is being republished by the authors in book form. The original issue of the bulletin was free, but is now practically exhausted.

pls. 1-29+f. 1-5. Trenton, 1911.)—This contribution to Cretaceous paleobotany is largely a compilation of previous work by the author and those who preceded him in the investigation of the Raritan flora, although descriptions and figures of a few new species are included in it. About 100 of the 128 plate figures of fossil plants are reproductions of figures in Newberry's *Flora of the Amboy Clays*, the type specimens of which are in the museum of the New York Botanical Garden where, the author gracefully states, "they are well arranged and easily accessible." Numerous incidental references may also be found to other type and figured specimens in the museum, collected by Dr. Arthur Hollick in Long Island, Block Island and Martha's Vineyard.

Although it adds but little that is new to science, as a handy reference work to the flora of the Raritan formation in New Jersey it is useful, especially as many necessary corrections in nomenclature have been brought down to date. Unfortunately, however, the work is seriously marred by innumerable typographic errors and other lapses due, apparently, to careless editing.—ARTHUR HOLLICK.

Mechanism favorable to insect pollination in cruciferous flowers is discussed in *Nature* (September 21) under a criticism of a recent German book by Günthart. Crucifers generally show (1) petal claws which "bend away from the lateral stamens as if to leave definite 'entrance slits' to the assumed nectar-containing pouches of the lateral sepals"; (2) the anthers of the longer stamens are commonly twisted on their filaments so as to face round toward the adjacent lateral ones, as if with the intention of rubbing the entering proboscis of an insect; (3) the edges of the filaments are frequently extended into elaborate appendage growths which are apparently intended to guide the proboscis of the insect visitor to the secreting surface.—J. B.

MENDELISM. (Professor R. C. Punnett of the University of Cambridge. Published by The Macmillan Company, New York. 12mo, price by mail \$1.38.)—The third edition of Punnett's treatise on Mendelism has recently appeared. This volume gives

a concise exposition of the original Mendelian doctrine together with the various modifications which have developed from recent investigations in genetics. The conceptions of the Cambridge school of genetics, especially in reference to the Presence and Absence Hypothesis, are well presented.

The general non-technical treatment, the clear statement of principles, the careful presentation of experimental data drawn from investigations with both plants and animals, and the use of excellent diagrams and illustrations combine to make the book of unusual interest to the general public.

It is to be regretted that, in spite of criticisms on the former editions, the author continues to define ovules and pollen grains as gametes. The development of the male and female gametophytes in flowering plants with the subsequent act of fertilization is thus presented: 'The pollen cell bores its way down the pistil to reach an ovule.' In even a popular discussion of principles depending on definite factors which gametes bear, it is difficult to understand why the sex generation should be so lightly disposed of.

A few words upon this phase would give this interesting popular treatise an additional accuracy that is in keeping with well-known morphological facts.—A. B. STOUT.

THE PLUMS OF NEW YORK. (Hedrick, U. P. Eighteenth Annual Report of the Department of Agriculture. State of New York, Vol. 3, Part II, or Report of the New York Agricultural Experiment Station for the Year 1910, II, pages viii+616. Albany, 1911.)—In the writing of this bulky volume, Hedrick has been assisted by R. Wellington, O. M. Taylor, W. H. Alderman and M. J. Dorsey. The Plums of New York is the third monograph of the fruits of New York State, the two preceding reports being on apples and grapes respectively. Broadly speaking, the work, which is illustrated by 108 beautifully colored plates of plums, is a horticultural and not a botanical work and yet it is of greatest value to the botanist. The book has been written for New York, but its contents are so general in character that it applies to the whole country and more or less to the world.

The first chapter is an historical account and a botanical classification of plums; the second a discussion of the present status of plum-growing in America; while the third and fourth are devoted to varieties of plums. The first and last two of these chapters contain the synonymy and bibliography of the species and varieties of plums. In the footnotes running through the book are given biographical sketches of plum growers.—JOHN W. HARSH-BERGER.

In a recent text book of Egyptian agriculture edited by G. P. Foaden and F. Fletcher attention is called to the fact that the important staple crops are remarkably free from fungous diseases. Berseem and maize, although grown in enormous quantities, are practically free from disease; wheat only bears rust-pustules, commonly after the flowering period; and although cotton is inhabited by four common fungi, it is attacked by them at such times as to be but little affected by them. This is at least partly due to the climatic conditions: high temperatures unfavorable to fungi, and the unvarying character of the climate.—J. B.

An exceedingly attractive series of leaflets is issued from the Arnold Arboretum under the title of *Bulletin of Popular Information*. Number 11 of the series contains a discussion of the English elm, or rather, of the English elms, for there are two that “. . . grow naturally and spontaneously in Great Britain, *Ulmus glabra* and *Ulmus nitens*.” Besides these two, there are two other species in northern and central Europe, *U. laevis* and *U. foliacea*, all in cultivation at the arboretum.

“When we speak [broadly] of *Ulmus campestris* we do not refer to any of these trees . . . , but to the so-called elm of the roadsides, avenues, and hedgerows of southern England. The origin of this tree is obscure. Growing spontaneously it is known only in England; it never ripens seed and it increases by suckers which are produced in profusion. Some authors have thought that it might be a hybrid; by others it has been suggested that it was brought from Italy to Britain by the Romans. . . . The oldest name of this tree is *Ulmus surculosa*.”

The statement is made that most of the seedlings imported from Europe as *U. campestris* are *U. foliacea*, and this has led to the confusion in this country in the identity of the English and European elms.

The *Bulletins* are published at frequent intervals during the growing season and are free.—N. T.

Volume 1, No. 1, of the Brooklyn Botanic Garden *Record* has just been issued. It is a quarterly, and according to its foreword, “. . . is purely an administrative organ, and is not intended either as a scientific publication or as a newspaper, but, as its name indicates, to serve as a record of the development and progress of the Garden, and as a medium of communication between the Garden and its constituency. One of the numbers of each volume will contain the Annual Report of the Director of the Garden.”—N. T.

PROCEEDINGS OF THE CLUB

NOVEMBER 29, 1911

The meeting was held in the laboratory of the New York Botanical Garden and was called to order at 3:40 p.m. by the acting secretary in the absence of other officers. Ten persons were present. The reading of minutes and the transaction of business were passed over and the meeting proceeded with the scientific program. The first announced paper was by Mr. Arlow Burdette Stout on “The Characteristics of the Fungus *Sclerotium rhizodes* with special Reference to its Action on the Cells of its Host,” of which the following is an abstract:

Mr. A. B. Stout presented in part the results of his investigations of the fungus *Sclerotium rhizodes* Auersw., a complete report of which will soon appear in a research bulletin of the Wisconsin Agricultural Experimental Station.*

Special mention was made of the behavior of the fungus in

* A more complete abstract than is here given appeared in *Phytopathology*, 1: 69.